

REMARKS

Claims 1-24 are pending in the subject patent application. Claims 1, 11, 21 and 22-24 are the independent claims. Base Claim 23 is the independent form of Claim 16.

Applicants acknowledge the allowable subject matter indicated for Claims 16-19 and 22-24. Base Claims 1, 11 and 21 have now been amended to recite the claim limitations of base Claims 22-24 indicated in the Office Action at hand as not being expressly taught by the prior art. In particular, the claim limitation of "calibrating...by using a bound on a derivative of the base non-linear function to constrain parameters of the model to produce a constrained model with global behavior..." has now been added to base Claims 1, 11 and 21. Support for these claim amendments can be found at least on Specification page 7, lines 7-8 and Claims 22-24 as originally filed. No new matter is introduced. Acceptance is respectfully requested.

It follows that base Claims 1, 11 and 21 as now amended to recite subject matter deemed by the Office Action at hand to be allowable, that these base claims and claims dependent thereon (i.e., Claims 2-10 and 12-20) are also allowable.

Claims 1-24 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In support of this rejection, the Office Action states that the claims are directed to an abstract mathematical algorithm and do not produce a "useful, concrete, and tangible" result. In particular, the claimed invention is cited as not producing any useful output.

MPEP § 2106IA. provides examples of claimed inventions that have a practical application because they produce useful, concrete and tangible results. Those examples include: (1) a long distance telephone billing process that applies a Boolean principle, (2) transformation of data (discrete dollar amounts) to a final share price momentarily fixed for recording and reporting purposes, and (3) a rasterizer for converting discrete waveform data samples into anti-alias pixel illumination intensity data to be displayed on a display means.

The claims as now amended recite the present invention in terms that as a whole produce a useful, concrete and tangible result. Specifically base Claims 1, 11, 21 and 22-24 are now amended to recite that the constrained model provides "...precision control of the non-linear empirical process" or "optimized approximations to a process controller for controlling the polymer process". Support for these claim amendments is found at least on Specification page 5, 19 - page 6, line 9 and page 8, lines 1-12 as originally filed. No new matter is introduced.

The claim term "non-linear empirical process" may be, for example, any chemical or process model, financial forecasting, pattern recognition, retail modeling and batch process

modeling as described on Specification page 6, lines 3-9. The present invention provides for increased precision in controlling such empirical processes. Specifically, the present invention constrained model provides optimized approximations to any of a process controller, a financial forecasting system, a pattern recognition system, a retail modeling system and a batch process modeling system and the like. Thus, the claimed invention as now recited produces a useful output in satisfaction of 35 U.S.C. § 101.

Each of the dependent claims follow one of the base claims and thus Claims 1-24 as now amended are believed to be directed to patentable subject matter, that is a computer process, method and apparatus that has a practical application and produces a useful, concrete and tangible result (namely precision control of the subject non-linear empirical process).

Therefore the rejection under § 101 is believed to be overcome. Acceptance is respectfully requested.

Claims 1, 11 and 21 have been rejected under 35 U.S.C. § 102 as being anticipated by Wassick (U.S. Patent No. 5,740,033). As stated above, base Claims 1, 11 and 21 have been amended to recite the limitations that the Office Action at hand states as not being expressly taught by Wassick (see page 2, paragraph 5 and page 3, paragraphs 6 and 7 of the Office Action at hand). As such the rejection under § 102 is believed to be overcome. Withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (Claims 1-24) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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